



Instrument Grading Systems for Beef Carcasses

Performance Requirements for Instrument Marbling Evaluation (PRIME) *II. Implementation and Verification of Operational Procedures*

BACKGROUND:

The Department of Agriculture (USDA), Agricultural Marketing Service (AMS), Livestock and Seed (LS) Program will utilize beef carcass marbling scores made by approved instruments to assist in determining the official quality grade of beef carcasses. The LS Program will approve instrument systems that meet specific performance requirements for accuracy, precision, and repeatability in the prediction of the marbling scores for beef carcasses. The requirements are outlined in the LS Program document titled *Performance Requirements for Instrument Marbling Evaluation (PRIME), I. Demonstration of Repeatability, Accuracy, and Precision* (<http://www.ams.usda.gov/lsg/stand/instrument.htm>). Once an instrument has met the performance requirements, procedures for the implementation and verification of operation must be established on a plant-by-plant basis and be approved by the LS Program.

The requirements for instrument grading systems were established after consultation with an Industry Working Group that was convened by the LS Program and the National Cattlemen's Beef Association (NCBA). The Industry Working Group was comprised of representatives of USDA, NCBA, beef processing companies, cattle producers, technology providers, and academia.

PURPOSE:

The purpose of this document is to provide the requirements that must be addressed through a Quality Management System for the implementation, operation and verification of instrument grading systems in the evaluation of beef carcass marbling score, certification programs, and carcass data information programs. An establishment must have a documented program of daily in-plant verifications and procedures that ensure accurate and precise determinations are made by properly calibrated and verified instruments that have been approved for marbling score assessment.

"The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer."



OPERATIONAL PROCESS VERIFICATION

A verifiable, documented process must be established on a plant-by-plant basis by the beef processing company to ensure the instrument for marbling score determination is operating in the terms described within the document. The documented process must be approved by the LS Program.

ASTM Standard F 2341-03

The LS Program will utilize the ASTM Standard F 2341-03, *Standard Practice for User Requirements for Livestock, Meat, and Poultry Evaluation Devices or Systems* (www.astm.org) for evaluating an establishment's documentation. An establishment must submit a documented quality manual that meets the program requirements outlined in the ASTM Standard F 2341-03 and the additional criteria outlined in this document, as applicable.

Additional Requirements

The additional criteria that must be addressed in conjunction with ASTM Standard F 2341-03 include:

4.3 Operation: (clause 4.3 of F 2341-03)

4.3.3 User shall develop, document and implement a procedure for submission to the LS Program for approval of any system change (hardware or software) prior to implementation. (NOTE: This is an extension of clause 4.3.3 of F 2341-03)

4.3.4 User shall provide a description of the flow of operational procedures. The description shall include the linking of actual carcass, hot carcass weight and carcass image data. The user shall establish the procedure for the presentation of carcass and image data to the grader(s) for review, in order for the grader(s) to determine grade eligibility, to accept or reject the image data, and to determine the final grade. The user shall also establish the procedure for grade application and/or identification. (NOTE: This is an additional clause)

4.3.5 *Calibration*—User shall ensure that the device or system is calibrated as recommended by the manufacturer, consistent with the manufacturer's current instruction manual. The user shall develop and document a calibration routine and maintain records of calibration. (NOTE: This is an additional clause)



4.8 Instrument System Security and Integrity: (NOTE: This is an additional clause)

4.8.1 The user shall disclose to the LS Program a list of essential devices and components of the instrument system. This includes defining key hardware and software components to provide assurance to the LS Program that the instrument grading system will perform to the standard that it was approved under and has tamper safeguards in place to provide security and integrity of the system.

4.8.2 Each essential hardware component shall be identified by a unique code. These components must be identified and recorded when used.

4.8.3 The user shall under go a USDA cyber security evaluation and maintain documentation of this evaluation.

The establishment's documented processes are monitored and validated on a continual basis by LS Program personnel. The establishment's documented processes are also verified through independent, third party audits conducted by the Audit, Review, and Compliance (ARC) Branch in accordance with ASTM Standard F 2341-03 to ensure consistent auditing practices and promote international recognition of audit results.

These procedures are subject to revision at any time by the LS Program.

Requests for approval shall be submitted to:

Chief, Standardization Branch
USDA, AMS, LS
1400 Independence Avenue, S.W.
Room 2607 South Building
Washington, DC 20250-0254

Phone: (202) 720-4486
FAX: (202) 720-1112
Email: Martin.OConnor@usda.gov

Approved: _____

Martin E. O'Connor, Chief
Standardization Branch